UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,249	04/14/2005	Laurent Regnier	S1022.81220US00	1226

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EXAMINER
SMITH, JOSHUA Y

ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/531,249	REGNIER, LAURENT
	Examiner	Art Unit	
	Joshua Smith	2619	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>*14 April 2005*</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>*1-4*</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>*1-4*</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>*14 April 2005*</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☒ All b) ☐ Some * c) ☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>*4/14/2005*</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

2.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 includes "each segment being classified according to one **or the other** of the five following types of segments" (emphasis added by examiner). This is indefinite in that it is not clear what "or the other" indicates.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.

     3.   Resolving the level of ordinary skill in the pertinent art.

     4.   Considering objective evidence present in the application indicating
            obviousness or nonobviousness.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Nexus 5001 Forum, "Standard for a Global Embedded Processor Debug Interface",

IEEE-ISTO, pages 5, 28-29 and 92-97 of 150, in view of Petersen et al. (Patent

Number: 5,822,321), hereafter referred to as the Nexus reference and Petersen,

respectively.

In regard to Claims 1 and 4, the Nexus reference teaches in Page 1 of 150, an

embedded processor debug interface standard for embedded control applications and

where applications include automotive powertrain, data communications, computer

peripherals, and other control applications, and, in Page 5 of 150, high-performance on-

chip instruction cache and flash, and, in Page 29-29 of 150, and in Figure 5-3, Page 28

of 150, an Emulator connected to a Target and a Host (transmitting between a

monitoring circuit integrated to a microprocessor and an analysis tool and means for).

The Nexus reference also teaches in Page 97 of 150, 1st and 5th bullets, a data

message is divided into packets, and, in Page 95 of 150, and in Page 96 of 150, Table

8-2, a transfer of an Indirect Branch message involving a transfer protocol, and where

packets of the message are transmitted in sections of four bits or less with each count

of a clock, and implicitly teaching that the message is to be reconstructed eventually at

a receiving end (dividing each data packet into successive segments of same

predetermined size, and reconstituting packets of each message by arranging end to

end segments containing data of a same packet).

The Nexus reference also teaches in Page 92 of 150, and in Page 96 of 150,

Table 8-2, and in Page 94 of 150, Figure 8-2, four-bit transmission sections of the

packets are labeled as "Idle", "Start Message", "Normal Transfer", "End Packet", and

"End Packet/Message" (each segment being classified according to one or the other of

five types, segment containing a message start, intermediary data, a packet end, a

message end, or empty segment, and being classified as a segment containing a

packet end).

The Nexus reference also teaches in Page 92 of 150, and in Page 96 of 150,

Table 8-2, and in Page 94 of 150, Figure 8-2, two MSEO pins are used to indicate the

state of the four-bit transmission at each clock count, and where bit pattern changes

between a certain clock count and its previous clock count are used to indicate a state

at the certain clock count (sending at the same time as each segment an identification

signal (MSEO) characterizing a type difference between the considered segment and

the previous segment).

The Nexus reference fails to teach characterizing a segment containing both a

start and an end of a message is classified as being a segment containing a message

end, and a segment containing both a start of a message and an end of a first packet of

a message. Petersen teaches these limitations.

In the same field of endeavor, Petersen teaches in column 4, lines 37-41, and in

FIG. 4b, Sheet 2 of 10, if a data packet is so short that it can fit into a single minicell,

segmentation is not necessary, and a sending entity will send the data packet to the

receiving entity in a single minicell marked "last segment" (a segment containing both a

start and an end of a message is classified as being a segment containing a message end).

Petersen also teaches in column 3, lines 54-56, and in FIG. 4b, Sheet 2 of 10, the length of each minicell is limited to a length less than an ATM cell payload, and since a minicell is used for the beginning portion of each packet larger than a minicell, and since Petersen does not exclude such a minicell being completely contained within an ATM cell payload, Petersen implicitly teaches a minicell containing the beginning portion of a packet being completely contained within an ATM cell payload (a segment containing both a start of a message and an end of a first packet of a message). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Petersen with the teachings of the Nexus reference since Petersen teaches a method where packets are segmented into minicells, which are transmitted within ATM cells, and where the method ensures that the maximum ATM cell payload is completely utilized by allowing data from more than one minicell to exist within the payload of an ATM cell, providing the most efficient usage of bandwidth, and can be implemented in the system of the Nexus reference to ensure that transfers per clocking period are carrying the maximum amount of data by allowing data from more than one packet or message to exist in a single transfer when a transfer is not filled when transferring data of only a single packet or message.

In regard to Claim 2, the Nexus reference teaches in Page 92 of 150, and in Page 94 of 150, Figure 8-2, the use of 2-pin MSEO transfers, and teaches that a Start

Message can be transferred after an End Message transfer or an Idle transfer (a

segment containing a start message (SM) may be transmitted after a segment

containing a message end (EM) or an empty segment (ID)), and an Idle transfer can

occur after an End Message transfer or after another Idle transfer (a segment containing

an empty segment (ID) may be transmitted after a segment containing a message end

(EM) or an empty segment (ID)).

The Nexus reference also teaches in Page 92 of 150, and in Page 94 of 150,

Figure 8-2, a Normal Transfer can occur after a Start Message, another Normal

Transfer, or an End Packet (a segment containing intermediary data (NT) may be

transmitted after a segment containing a message start (SM) or intermediary data (NT)

or a packet end (EP)).

The Nexus reference also teaches in Page 92 of 150, and in Page 94 of 150,

Figure 8-2, an End Message transfer can occur after a Start Message transfer, a

Normal transfer, or an End Packet transfer, and an End Packet transfer can occur after

a Start Message or a Normal Transfer. The Nexus reference does not teach an End

Message transfer can occur after an Idle transfer, and does not teach that an End

Packet transfer can occur after an Idle transfer or an End Message transfer. Petersen

teaches these limitations. In the same field of endeavor, Petersen teaches in column 4,

lines 42-52, and in column 5, lines 4-10, and in FIG. 6, Sheet 4 of 10, a reassembly

process (item 600) where, after an idle state (item 601), it enters a reassembly state

(item 602) whenever a receiving entity receives a minicell marked "last segment",

where, as taught in column 4, lines 37-41, if a data packet so short that it can fit into a

single minicell, segmentation is not necessary and the data packet (whole message,

including its "end") is sent to a receiving entity in a single minicell (single packet, the

packet containing the whole message) marked "last segment" (the single packet

represented as a "last packet" and contains the message's "beginning" and "end").

Therefore, the combined teachings of the Nexus document and Petersen teach a

segment containing a packet end or a message end may be transmitted after a segment

of any type. It would have been obvious to one of ordinary skill in the art at the time of

the invention to combine the invention of Petersen with the teachings of the Nexus

reference since Petersen teaches a method where packets are segmented into

minicells, which are transmitted within ATM cells, and where the method ensures that

the maximum ATM cell payload is completely utilized by allowing data from more than

one minicell to exist within the payload of an ATM cell, providing the most efficient

usage of bandwidth, and can be implemented in the system of the Nexus reference to

ensure that transfers per clocking period are carrying the maximum amount of data by

allowing data from more than one packet or message to exist in a single transfer when a

transfer is not filled when transferring data of only a single packet or message.

   In regard to Claim 3, the Nexus reference teaches in Page 92 of 150, and in

Page 94 of 150, Figure 8-2, a complement MSE has a value equal to "00" when a

transfer contains a Start Message or is a Normal Transfer (a first value (00) if a

transmitted segment contains a message start or intermediary data (NT)).

The Nexus reference also teaches in Page 92 of 150, and in Page 94 of 150, Figure 8-2, a complement MSE has a value equal to "01" when a transfer contains an End Packet (a second value (01) is a transmitted segment containing a packet end (EP)).

The Nexus reference also teaches in Page 92 of 150, and in Page 94 of 150, Figure 8-2, a complement MSE has a value equal to "10" (a third value (10)).

The Nexus reference also teaches in Page 92 of 150, and in Page 94 of 150, Figure 8-2, a complement MSE has a value equal to "11" for an Idle transfer (a fourth value (11) is a transmitted segment is empty (ID)), and for an End Message transfer that follows a Start Message transfer, Normal Transfer, or an End Packet transfer (transmitted segment contains a message end (EM) and if a previous message contained a message start (SM), intermediary data (NT), or a packet end (EP)). The Nexus reference fails to teach a transmitted segment contains a message end (EM) if a previous segment contained a message end (EM) or was an empty segment (ID). Petersen teaches these limitations.

Petersen teaches in column 4, lines 42-52, and in column 5, lines 4-10, and in FIG. 6, Sheet 4 of 10, a reassembly process (item 600) where, after an idle state (item 601), it enters a reassembly state (item 602) whenever a receiving entity receives a minicell marked "last segment", where, as taught in column 4, lines 37-41, if a data packet so short that it can fit into a single minicell, segmentation is not necessary and the data packet (whole message, including its "end") is sent to a receiving entity in a single minicell (single packet, the packet containing the whole message) marked "last segment" (the single packet represented as a "last packet" and contains the message's

"beginning" and "end"), and implicitly teaching that a whole data packet, including its

"end", can be contained in a single minicell marked "last segment" and the minicell can

be contained within an ATM cell and can follow an Idle state, or, as taught in FIG. 4b,

Sheet 2 of 10, can follow another minicell containing the end of another packet (item

411) (a transmitted segment contains a message end (EM) if a previous segment

contained a message end (EM) or was an empty segment (ID)). It would have been

obvious to one of ordinary skill in the art at the time of the invention to combine the

invention of Petersen with the teachings of the Nexus reference since Petersen teaches

a method where packets are segmented into minicells, which are transmitted within

ATM cells, and where the method ensures that the maximum ATM cell payload is

completely utilized by allowing data from more than one minicell to exist within the

payload of an ATM cell, providing the most efficient usage of bandwidth, and can be

implemented in the system of the Nexus reference to ensure that transfers per clocking

period are carrying the maximum amount of data by allowing data from more than one

packet or message to exist in a single transfer when a transfer is not filled when

transferring data of only a single packet or message.
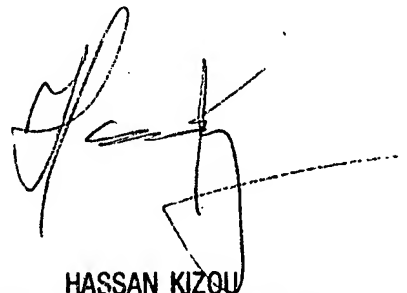

Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Beshai et al. (Pub. No.: US 2004/021329 A1) and

Krishnamoorthy et al. (Patent No.: US 6,625,165 B1) each teach methods of

segmentation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Smith whose telephone number is 571-270-1826. The examiner can normally be reached on Monday through Friday, 7:30 AM to 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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11/5/2007

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